

Notice of Allowability

Application No.

10/762,347

Examiner

Ida M. Soward

Applicant(s)

TAKAHASHI ET AL.

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Applicants' amendment filed July 31, 2007.
2. ☒ The allowed claim(s) is/are 46-64.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

IDA M. SOWARD
PRIMARY EXAMINER

DETAILED ACTION

This Office Action is in response to the Applicants' amendment filed July 31, 2007.

Allowable Subject Matter

Claims 46-64 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art of record does not disclose, make obvious, or otherwise suggest the structure of the applicant's together with the other limitations of the independent claims, such as:

In claim 46, "a base resin film formed on the main surface of the semiconductor chip and having a plurality of electrode holes formed therein, the base resin film having a first surface facing the main surface of the semiconductor chip, a second surface opposite to the first surface and a through hole provided thereof; a plurality of conductive patterns formed on the first surface of the base resin film, the conductive patterns extending in the through hole; and an insulating film formed on the first surface of the base resin film and the conductive patterns, wherein the conductive patterns extending in the through hole are connected with the electrodes: and a plurality of electrodes holes exposing a part of the conductive patterns";

In claim 52, "a base resin film formed on the main surface of the semiconductor chip, the base resin film having a first surface facing said semiconductor chip, a second

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surface opposite to the first surface, a through hole and a plurality of electrode holes provided thereof; a plurality of conductive patterns formed on the second surface of the base resin film, the conductive patterns extending in the through hole an insulating film formed on the second surface of the base resin film and conductive patterns, wherein the conductive patterns extending in the through hole are connected with the electrodes, and a plurality of electrode holes exposing a part of the conductive patterns"; and

In claim 58, "a base resin film formed on the main surface of the semiconductor chip, the base resin film having a first surface facing said semiconductor chip and a second surface opposite the first surface and having a plurality of second electrode holes; a plurality of electrode patterns formed on the first surface of the base resin film; a first insulating film formed on the first surface of the base resin film, the first insulating film having a plurality of first electrode holes for exposing the electrode patterns; a plurality of conductive patterns formed on the second surface of the base resin film, the conductive patterns electrically connected to the electrode patterns; and a second insulating film formed on the second surface of the base resin film and the conductive patterns, wherein the second electrode holes expose a part of the conductive patterns".

The dependent claims being further limiting and definite are also allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to the as claimed semiconductor devices:

Berg et al. (5,756,380)

Horiuchi et al. (5,602,059)

Lin (5,436,203)

Ohsawa et al. (5,886,399)

Ommen et al. (5,397,917)

Tsuji et al. (6,025,650).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ida M. Soward whose telephone number is 571-272-1845. The examiner can normally be reached on Monday - Thursday 6:30am to 5:00pm.

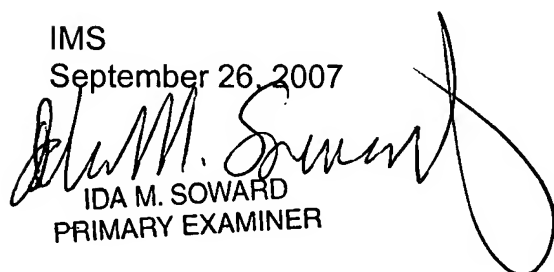
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra V. Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IMS

September 26, 2007

A handwritten signature in black ink, appearing to read 'Ida M. Soward', is written over the typed name and title.

IDA M. SOWARD
PRIMARY EXAMINER